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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,803	10/16/2003	Uri L. Zilberman	25771-X	5141
20529 7590 12/03/2009 THE NATH LAW GROUP 112 South West Street Alexandria, VA 22314				
EXAMINER NELSON, MATTHEW M				
ART UNIT 3732		PAPER NUMBER		
MAIL DATE 12/03/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/685,803

**Applicant(s)**

ZILBERMAN, URI L.

**Examiner**

Matthew M. Nelson

**Art Unit**

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

**DETAILED ACTION**

1. Amendment filed on 9/4/2009 is acknowledged. Claims 1-10 remain pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 5,487,663) in view of Dougherty (US 3,647,498).
4. Wilson shows a dental crown (appliance 10) configured to be readily mountable in a patient's mouth as part of a treatment of primary teeth and permanent molars, the dental crown having a natural appearance (Fig. 1-5) and consisting of a thermoplastic layer (col. 4, lines 26-33) configured to define a tooth shaped top surface (Fig. 1-5); and depending flexible side surfaces extending continuously from said tooth shaped top surface towards a bottom portion of the dental crown (best seen in Fig. 4), said thermoplastic material layer being configured to enable dimensional stability and sufficient resilience of the crown (col. 3, lines 7-13); and a bottom portion (at 17 in Fig. 2-5) of at least one of said depending flexible continuous side surfaces, the resilience of the flexible depending side surfaces and bottom portion capable of enabling the dental crown to be directly mounted on a primary tooth or permanent molar (Fig. 1; col. 3, lines 7-13).

5. However, Wilson fails to show the bottom portion comprising an undercut defining an inwardly directed inner surface of said bottom portion in the main embodiment. It would have been obvious to one of ordinary skill in the art at the time of invention to have formed the crown with an undercut (negative draft) as taught by Wilson (col. 2, lines 46-56) in order to allow the crown to be snapped in place and take advantage of alternative attachment means known in the art.

6. However, Wilson fails to show the dental crown the color of a vital tooth and being made of a specific thermoplastic material. Dougherty teaches dental crown (material) being subtly colored. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the crown to having subtle coloring in order to have a crown simulate natural tooth. Dougherty shows thermoplastic material of polymethylmethacrylate and further comprising pigment or filler. It would have been obvious to one of ordinary skill in the art as to the process and intermediate products used in the process by which the dental crown is made, for example, injection molding and multi-element mold, because a product claim is properly met if the final product is shown regardless of the process used.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Dougherty and Karmaker et al. (US 6,186,790).

8. Claim 10 is rejected similarly to the above and additionally the dental crown may be permanent (col. 4, lines 24-25). However, Wilson/Dougherty fail to show the polymer material as claimed.

9. Karmaker teaches a dental crown formed of a variety of thermoplastic polymer material including polycarbonate, polysulfone, polyacetal, polyacrylate and polymethacrylate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a polyacetal polymer of Karmaker, because Karmaker teaches the material was known as art-recognized equivalent material at the time the invention was made in forming dental components including crown forms. Furthermore, a specific polymer material is not disclosed as critical to the claimed invention. It is noted that Karmaker also show dental crown formed of a variety of processes including injection molding, compression molding and machining.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant argues that the sides of Long are left open. Claim language was discussed in the previous interview to clarify the sides of the crown surrounding all sides the tooth, however language to that effect has not been included and the claim language still does not require the crown to cover all four sides. Long's structure is still considered pertinent.

12. Applicant argues that Wilson relates to an appliance only capable of serving as a crown form, however Wilson states that the crown form may be the crown, specifically in col. 2, lines 29-30 and col. 5, lines 1-3, 9-11.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew M. Nelson whose telephone number is (571) 270-5898. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MMN/

/Cris L. Rodriguez/  
Supervisory Patent Examiner, Art Unit 3732